Glazing

Selection of appropriate glazing represents a good opportunity for significant energy savings. Two important issues are pertinent: radiant (as opposed to conductive) heat gain and visible light gain. Ideally, windows would have a minimal thermal penalty and assist with lighting requirements. To accomplish this dual role, the infrared or heat portion of solar radiation must be rejected, while the visible or light portion is transmitted.

The National Fenestration Rating Council (NFRC) energy performance label can help determine how well a product will perform the functions of helping to cool a building in the summer, warm a building in the winter, keep out wind, and resist condensation. By using the information contained on the label, builders and consumers can reliably compare one product with another, and make informed decisions about the windows, doors, and skylights they buy.

NFRC adopted a new energy performance label in 1998. It lists the manufacturer, describes the product, provides a source for additional information, and includes a rating for one or more energy-performance characteristics.

NFRC rates all products in two standard sizes so that consumers and others can be sure they are comparing products of the same size. On the label, these two sizes are listed as ARes@ and ANon-Res.@

U-Factor - U-factor measures how well a product prevents heat from escaping. The rate of heat loss is indicated in terms of the U-factor (U-value) of a window assembly. U-Factor ratings generally fall between 0.10 and 1.20. The insulating value is indicated by the R-value which is the inverse of the U-value. The lower the U-value, the greater a window=s resistance to heat flow and the better its insulating value.

Solar Heat Gain Coefficient - Solar heat gain coefficient (SHGC) measures how well a product blocks the heat that is caused by sunlight. The SHGC is the fraction of incident solar radiation admitted through a window and directly transmitted and absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window=s solar heat gain coefficient, the less solar heat it transmits.

Visible Transmittance - Visible transmittance (VT) measures how much light comes through a product. The visible transmittance is an optical property that indicates the amount of visible light transmitted. VT is expressed as a number between 0 and 1. The higher the VT, the more light is transmitted.

Air Leakage- Air leakage (AL) is indicated by an air leakage rating expressed as the equivalent cubic feet of air passing through a square foot of window area (cfm/sq ft). Heat loss and gain occur by infiltration through cracks in the window assembly. The lower the AL, the less air passes through these cracks.